

1-12-77

EEE BRANCH REVIEW

DATE: IN _____ OUT _____ IN _____ OUT _____ IN 12/07-76 OUT 1/12/77
FISH & WILDLIFE ENVIRONMENTAL CHEMISTRY EFFICACY

Data referenced: Accession Nos.: 009844 and 009846

FILE OR REG. NO. 464-323

PETITION OR EXP. PERMIT NO. _____

DATE DIV. RECEIVED 5/05/75 + 8/10/76 (Aerial Deletion)

DATE OF SUBMISSION 4/25/75

DATE SUBMISSION ACCEPTED _____

TYPE PRODUCT(S): I, D, (H) F, N, R, S Herbicide

PRODUCT MGR. NO. 25 (Mr. Taylor)

PRODUCT NAME(S) Tordon 22K

COMPANY NAME Dow Chem. Co.

SUBMISSION PURPOSE Addition of pastures + rangelands to label and deletion of aerial application use from label

CHEMICAL & FORMULATION picloram: Potassium salt of (4-amino-3,5,6-trichloro-picolinic acid)

(Acid Equivalent = 21.5% or 2 lbs. ae/gallon)

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200.0 Introduction:

200.1 Uses:

Refer to attached use sheets.

200.2 Background information:

Tordon 22K is presently registered for weed control in non-crop areas only. Dow Chem. Co. is now requesting registration of Tordon 22K for use on pastures and rangelands west of the Mississippi river. Aerial application of Tordon 22K has been deleted from the proposed label. Aerial data submitted were not reviewed.

201.0 Data Summary:

201.1.1 Brief description of tests

Additional performance data in support of pasture and rangeland use were submitted May 3, 1975. Data previously submitted to R.D. (September 24, 1974 - Reg. No. 464-323 - Accession Nos. 009844 and 009846) were referenced in this submission. The majority of the additional performance data submitted addressed canopy reduction (percent defoliation) of some of the brush species claimed on the label. Very little data were submitted in support of reseeding desirable legume or grass species following Tordon 22K treatment. Also, very little data were submitted to support use of the maximum recommended Tordon 22K rate on the broad spectrum of established pasture and rangeland legumes and grasses throughout the western U.S. All data submitted were reprints from scientific journals. Two phone calls were made to range Agronomists for comments concerning Tordon 22K use. Testimonial letters referenced (464-323, accession no. 009844), indicated a general agreement by most state authorities that Tordon 22K should be registered for use in pastures and rangelands; however, very little usable data were included in these letters. Specific information such as rates used, weeds controlled and plants injured must be submitted.

201.1.2 Data Summaries

Refer to EEEB files for data summaries.

202.0 Conclusions:

202.1 Claims supported by the data submitted and referenced:

- a) Efficacy data submitted and referenced will support control of russian thistle, tasajillo and goldenrod using a minimum recommended rate of 1/2 lb. ae/A.

- b) Efficacy data submitted and referenced will support control of whitebrush, western yarrow, western ironweed, western ragweed and white heath aster at a minimum recommended rate of 1.0 lbs. ae/A.
- c) Efficacy data submitted and referenced will support suppression (canopy defoliation) of spiny hackberry at a minimum recommended rate of 1.0 lbs. ae/A.
- d) Efficacy data submitted and referenced will support suppression (canopy defoliation) of blackjack oak, post oak, winged elm, gambel oak, mesquite, huisache, live oak, Macartney rose, Blackbrush and yaupon at a minimum recommended rate of 2 lbs. ae/A.
- e) Weeds previously accepted by EEEB as being controlled at a minimum rate of 0.5 lbs. ae Tordon 22K/A are broom snakeweed, Canada thistle, leafy spurge, knapweed, larkspurs, green rabbit brush, musk thistle, poison oak and prickly pear.
- f) A weed previously accepted by EEEB as being controlled at a minimum rate of 1.0 lbs. ae Tordon 22K/A is field bindweed.
- g) Weeds previously accepted by EEEB as being controlled at a minimum rate of 2.0 lbs. ae Tordon 22K/A are burragweed, dalmation toadflax, docks, white horsenettle, milkweeds, sowthistle, yellow toadflax, and morning glory.

202.2 Claims not supported by the data submitted

- a) Efficacy data submitted and referenced will not support control of musk thistle, scotch thistle and broom snake-weed at a minimum rate of 0.25 lbs. ae/A.
- b) Efficacy data submitted and referenced will not support control of blackbrush, ironweed, mesquite, western ragweed, whiteheath aster and yarrow at a minimum rate of 0.5 lbs. ae/A.
- c) Efficacy data submitted and referenced will not support control of burragweed, blackjack oak, chamise, dalmation toadflax, docks, gambel oak, gumbumelia, hackberry, hickory, huisache, live oak, Macartney rose, manzanita, milkweeds, morning glory, post oak, skeletonweed, sowthistle, white horsenettle, winged elm, yaupon, and yellow toadflax at a minimum rate of 1.0 lbs. ae/A.

- d) Phytotoxicity data submitted will not support the label statement: "Seeding of grasses should be delayed one year."
- e) No phytotoxicity and yield data were submitted in support of the label statement: "Also, new legume seedings may not be successful if made within 2 years following application of this herbicide."
- f) Crop injury and yield data submitted will not support use of the maximum recommended rate of 2# ae/A on established pasture and rangeland grasses. In the data submitted, injury was noted at 2# ae/A on blue grama~~grass~~, hooded windmill~~grass~~, buffalograss, Arizona cotton~~top~~, fescue grass, side-oatsgrama, reed canarygrass, Texasgrama~~grass~~ and Texas wintergrass. No phytotoxicity or yield data were submitted at less than 2# ae/A demonstrating safety to smooth brome~~grass~~ and western wheatgrass.

202.3

Additional data required prior to registration

- a) Submit efficacy data to support control of musk thistle, scotch thistle and broom snakeweed at a minimum rate of 0.25 lbs. ae/A., or delete these claims.
- b) Submit efficacy data to support control of blackbrush, ironweed, mesquite, western ragweed, white heath aster, and yarrow at a minimum rate of 0.5 lbs. ae/A, or delete these claims.
- c) Submit efficacy data to support control of burragweed, blackjack oak, chamise, dalmation toadflax, docks, gambleoak, gumbumelia, hackberry (granjeno), hickory, huisache, live oak, Macartney rose, manzanita, morning-glory, post oak, skeletonweed, sow thistle, white horse-nettle, winged elm, yaupon and yellow toadflax at a minimum rate of 1.0 lbs. ae/A, or delete these claims.

Refer to 202.1 for weed claims that are supported by data submitted or referenced.

- d) Submit crop injury (percent standard reduction and growth reduction) and yield data in support of the following label statement: "Seeding of grasses should be delayed one year following use of Tordon 22K herbicide to avoid failure or injury to new seedings." Evaluate the effect of 2 lbs. ae/A on new seedings (one year following treatment) of wheatgrasses, bluestems, grama grasses, love-grasses, dropseeds, needlegrasses, buffelgrass, bermuda-grass, tall fescue, buffalograss, blue panicgrass, wild rye grasses and other western U.S. range and pasture grasses. Report grass stage of growth at treatment and at time of evaluation.

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- e) Submit crop injury (growth reduction and stand reduction) and yield data in support of the following label statement:

"Also, new legume seedings may not be successful if made within 2 years following application of this herbicide." Evaluate the effect of 2 lbs. ae/A on legumes seeded 2 years following Tordon 22K treatment. Ensure that all commonly seeded legume species are evaluated. Report seedling stage of growth at treatment and at time of evaluation.

- f) Submit additional crop injury (percent growth reduction and stand reduction) and yield data evaluating the effect of 2.0 lbs. ae/A on the following established grass species: bluegrama, hooded windmillgrass, buffalograss, Arizona cottontop, rescuegrass, side-oats grama, reed canary grass, Texas grama and Texas wintergrass. Submit crop injury and yield at 1.0 lb. ae/A for smooth brome-grass and western wheatgrass. In the data submitted, report relative populations and feed values of the pasture and rangeland grass species (in each test and check plot) before and after Tordon 22K treatment.

203.0 Label Comments - to be resolved prior to registration

The following comments refer to the "Tordon 22K Herbicide" label dated Sept. 17, 1976.

- a) If claimed on the label, those species that are acceptable as suppressed should be listed under a heading such as "suppression (canopy defoliation)."
- b) In the "Use Directions" or as a footnote to the weed list, include a statement such as "Brush species listed under suppression (canopy defoliation) will be defoliated by a Tordon 22K treatment, but may not be killed."
- c) In the "Use Directions" include a statement such as "Do not apply Tordon 22K during periods of drought or when plants are defoliated from insect damage or other reasons, as such treatments are usually ineffective."
- d) On page 3, first sentence of the second paragraph under "Use Directions", delete: "plus many others."
- e) On page 3, second paragraph under "Use Directions", delete: "However, somewhat lower rates may provide adequate control or suppression consistent with the objectives of the user; likewise in some areas higher rates up to 4 quarts per acre may be necessary if so advised by State Extension Range or Weed Specialists."

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- f) Under the "Non-Cropland Area" label directions on page 5, delete "hickory".
- g) On page 5 under "Broadcast Treatment", delete: "A rate of 1 quart per acre is suggested, but 1/2 to 3/4 quart may be adequate for some weeds including snakeweed, musk thistle and scotch thistle."
- h) On page **6** under the second "Note", include the statement "Forage legumes may be injured or killed."
- i) On page 7 under "Do not allow spray drift", include the precautionary statement "Do not apply Tordon 22K with mist blower application equipment."

Richard C. Petrie
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